FOREST HEALTH PROTECTION
Pacific Southwest Region

FHP Report No C06-6

August 9, 2006
File code: 3400

Date of Travel: August 8, 2006

Location: Van Vleck Bunkhouse, Pacific Ranger District, Eldorado National Forest

Purpose: Hazard Tree evaluation of two red firs adjacent to the bunkhouse

Agency Personnel: John Quidachay

Background and Observations:

The Van Vleck Bunkhouse sits at the edge of a 40-acre meadow that was formerly a working cattle ranch of the Van Vleck family for nearly a century. The house was originally the secondary residence that survived a structure fire in which the main house was completely destroyed. This house is currently used as a vacation rental for the forest, available year- round.

Two large red firs are right next to the bunkhouse on the west side, beyond which extends into dense forest. Both trees are not more than 50 feet away from the house, with many of their larger branches (2-3 feet in diameter) overhang close to the roof, and a good probability that their root systems extend deep under the bunkhouse foundation. Each tree is more than **60** inches in circumference, and about **100** feet in height. Both trees lean slightly (less than 2%) parallel and uphill from the house, rather than towards it. Their overall crown conditions are still lush and green, and neither boles show no past fire or lightening scars.

The larger of the two, is beginning to show slight signs of decline. The top of the crown is rounded; some of its lower large branches are dead or broken; and there is slight swelling at the base. Current mistletoe infection is evident, but low. There is a hollow cavity at the base, which appears to extend inward about two feet. There are no visible signs of current or past insect activity on the crown or bole.

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Recommendations:

No one can accurately predict what type of failure will take place, or when. Green and dead branch failures associated with snow loading and wind, account for the great majority of reported accidents in forested settings and have the highest likelihood of occurrence. Removal of dead or questionable branches that pose a hazard is a management option that would greater lower the possibility of branch failure. The results from the Resistograph® show that. . . .

Standard alternatives for addressing hazard tree situations include the following:

1. **Do nothing**. The implication here is that management is willing to accept the risk by taking no action. This is a legitimate approach when target values and the probability of failure are low to moderate and the need for mitigation is not clear. It also assumes that the tree will be closely monitored for any changes in its condition. This is not an acceptable option in the current situation because the target value is high (when buildings are occupied or visitors present) and the probability of tree failure is moderate to high (depending on the type of failure – branch, bole or root).

2. **Treat the tree to reduce hazard potential**. Removing selected branches and leaders would reduce the total weight of the crown, and the proper distribution of weight could offset the tree's lean. This would lower the probability of branch, bole and root failures. An experienced arborist would have to provide direction on which and how much crown material to take out. Removing the entire tree is also an option that would completely eliminate hazard potential.

3. **Move the target**. Finding different locations for the entrance kiosk, other Forest Service buildings and vehicle parking areas outside the striking distance of the giant sequoia is the final management option.

Based on these observations and outlined in Hazard Tree Guidelines of the Eldorado National Forest, managers should be able to determine if there are potential hazards on the trees, these should warrant immediate attention. Please contact me if you have any further concerns or questions.

/s/ Beverly M. Bulaon
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South Sierra Shared Service Area